

ABSTRACT

An improved fuel processor for fuel cells is provided whereby the startup time of the processor is less than sixty seconds and can be as low as 30 seconds, if not less. A rapid startup time is achieved by either igniting or allowing a small mixture of air and fuel to react over and warm up the catalyst of an autothermal reformer (ATR). The ATR then produces combustible gases to be subsequently oxidized on and simultaneously warm up water-gas shift zone catalysts. After normal operating temperature has been achieved, the proportion of air included with the fuel is greatly diminished.